



Scuttlebutt

No. 84 December 1989

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Captain's Cabin Fred Lass, K2TR

It's halftime. CQ WW Phone is history, CW is right around the corner. The competition is intense, the scorekeeper can't keep up, but the totals must be close. Our top five stations total around 30 million points. The single-ops plus packet have really scored. The packet system was working very well. Our "little pistols" are making big efforts. One member, Allen, N2KW, made 70 thousand points from his car.

Plans are being made for CW. The big South Pacific DXpedition will be ready. Richard, K5NA, is putting up a new 200' tower. The little pistols are oiling their VFO knobs. Everybody and everything must be ready for the second half. In this contest, everyone is first string - our bench should be empty. Don't sit this one out! Get out there and run! Complete those passes! Let's make a shotgun formation with the little pistols (groan). YCCC has come a long way. The CQ WW club competition is our Super Bowl. There are two teams playing, and we are the underdog, but we know how to win by playing fair.

In phone, when conditions seemed poor, we kept calling CQ and tuning around. The rates weren't always high, but there was DX to work. We kept trying, and the score just kept climbing. Whatever the conditions in CW, keep going, extra effort by each and every member makes a huge difference. We need that difference to win. Go for it!

Next Meeting Paul Young, K1XM

The next meeting of the Yankee Clipper Contest Club will be on Saturday, December 2, 1989, at the Sheraton Sturbridge, beginning at 1 pm.

The Sheraton Sturbridge Resort and Conference Center is located on Route 20 in Sturbridge, Massachusetts, $\frac{1}{2}$ mile West of I-84 (first exit off I-84 when coming South from the Mass. Turnpike). Directions to the Sheraton are easy: Exit I-84 on to Route 20 West. You will pass through two sets of stoplights while noticing several motels on your right. Make a right turn just prior to the Burger King sign. This is the entrance to the Sheraton, and there is plenty of parking in front of the hotel.

The meeting dates for 1989-90 are:

DATE	DAY
December 2, 1989	Saturday
February 4, 1990	Sunday
April 8, 1990	Sunday
June 3, 1990	Sunday
August picnic - TBD	
October - Boxboro	
December 2, 1990	Sunday

Secretary's Report Yankee Clipper Contest Club

The October, 1989, YCCC meeting was held on October 22, 1989, at the Sheraton Sturbridge. Seventy-one members and several guests attended. After in-

troductions, the Treasurer's Report was read, showing the balance to be \$1695.49. Contest Cookbooks were available at the meeting for pickup, with remaining copies to be mailed out the following day. Bob, N1TZ, had hardline connectors for sale at only \$.50 each. Jake, W1FM, was selling a multi-function radio software package for IBM PCs and PC clones for \$24.95, which he demoed during the break and after the meeting, before leaving for his contest DXpedition to KP2, with his own generator since his contest QTH was still without electricity! Several other members were absent, having already left for their Caribbean destinations.

Ed, NT2X, displayed the attractive plaque YCCC is giving to the Japan Crazy Contesters Club, which he will be hand-carrying to Japan on his way to his contest QTH for the CQ WW CW next month (Ed will operate with Paul, K1XM, and Charlotte, KQ1F, from KC6). The solid walnut plaque features a three-dimensional cast clipper ship and brass plates lettered in both English and in Japanese. The club suggestion was for the JCCC to award this traveling plaque each year to their member which the largest combined score in the ARRL contest both modes and the AA both modes. It is likely that the JCCC will donate a similar traveling plaque to the YCCC.

Club President Fred, K2TR, reminded members that the club lost the ARRL contests by only 600K points last year, and so should have a good chance to win this year. We are especially well-positioned to win the CQ WW; he reminded everyone to maximize their point contribution using the hints in the Contest Cookbook.

The club welcomed seven new and returning members:

Frank L. Chamberlain, KC1HB
Paul Bolduc, KA1OFC
Scott Cohen, KA1QAS
Vincent Sgroi, K1RM
Paul L. Randazzo, NW1U
Kevin S. Bonnot, KA2EYP
Mike Griffin, WE6G

Russ, NJ2L, announced that the ARRL had added a new "Single-Op Assisted" category to the ARRL contests as of the previous Friday.

Several members were looking for operators for the upcoming contests, including K1XM for the SSB contest and K2OY for the CW contest.

The "3000 Hz QSO Party", a 7-minute Sprint, was won by Ed, NT2X, with 27 QSOs. Second place went to Pete, W1RM, with 24, and Saul, K2XA, Dick, AK1A, and Fred, K2TR, all tied for third place with 22.

After the break, Rolf, KE1Y, showed videotapes of the 3W8DX/3W8CW DXpeditions, the Hungarian operation from LX8A, and some of the big European

Hamvention in Germany. Between tapes, K8UR, passed out flyers for the ComTek ACB-4 Phased Array Switch and RCB-5 Remote Control Switchbox.

Members were reminded the reserve early for the New England DX Dinner on Saturday, November 18, at the Sheraton Sturbridge, which is limited to 130 attendees.

Respectfully submitted,
Charlotte L. Richardson, KQ1F
Secretary/Treasurer
27 October 1989

Letter from UZ9CWW

UZ9CWW is a DX contest-minded radio club on the air since 1953. For the last several years we cooperate with the Science and Realization Association Polar Expedition of the *Sovetskaya Rossia* newspaper (POLAREX). We have been providing radio communications for the transcontinental sled dog expedition which covered 10000 km in the extreme conditions of USSR Arctic in 1982/83. Apart from that we have participated in many other expeditions and DX Contests including WAE DC in 1984 with a world record of 2.4 million points.

Having enjoyed operating ham radio from remote places in the USSR we would like to share this unique experience with other fellow amateurs.

We realize that organizing a similar DXpedition to the USSR for a foreign amateur is still a thing next to impossible. And we suggest the way how to make such as journey available at an affordable price - only to cover POLAREX's expenses inside the USSR.

We can provide visitors with everything official tourist organizations can, plus a lot more ... DXing, contesting, meeting local amateurs.

We would like very much your suggestions on this issue. Is the above mentioned possibility of a demand among your amateurs? If yes - which regions of the USSR one would like to visit?

Send your suggestions to:
UZ9CWW
P. O. Box 17
Sverdlovsk, 620002
USSR

Thank you and best 73s.

Letter from N2JXH/V31LP

I am a recently licensed Technician. I was advised by a volunteer examiner ham to contact your club. I am looking to purchase second hand HF, VHF/UHF transceivers. I'd like to find HF equipment under \$450 and VHF/UHF equipment under \$250 (HTs or

other). I've been to two local emergency clubs and put word out to try and find an Elmer and equipment and haven't really had a lot of help in either area. Perhaps some of your club members are selling equipment or know of contest clubs in this area. I live in Westchester County, NY, just south of NY City. Many thanks.

Scott J. MacLean, N2JXH and V31LP
20 Somerstown Road
Ossining, NY 10562-394

All About Stacking

Ken Wolff, K1EA

Why stack yagis? The most common reason is bragging rights. Sometimes it makes you louder, sometimes not, depending on your implementation. Because my station runs 4/4/4/4 on 10 and 15 meters and 4/4/4 on twenty, I get a few questions. Here are the answers.

What I Have

I have one 120 foot tall Rohn 45 tower and one 90 foot tall Rohn 45 tower. The 120 foot tower has three, 4-element Cushcraft 20 meter beams and four 4-element Cushcraft 15 meter beams. The booms are not particularly long on these antennas: 24 feet on 15 and 32 feet on 20. They have a horizontal beamwidth of 60 degrees, which is just what I want. They cover UA0 all the way down to EA6 without turning the beam. It is true that they give up gain over a very long boom, but they reach a larger target audience in Europe, are much easier to put up and maintain, and they are not rotor croakers. The 90 foot tower has four 4-element 10 meter beams and a 4-element KLM 40 meter beam. The KLM is a rotor croaker.

The bottom two 20 meter and bottom three 15 meter antennas are fixed at 35 degrees. The top antennas are rotatable. Switching is very simple: top only or all at once. I have heard that at NR5M some bands have 11 antenna combinations/choices! I don't think well enough to use that station. The bottom three 10 meter antennas are fixed at 45 degrees, while the top one rotates.

The 20 meter antennas are located at 40, 80, and 120 feet. The 15 meter antennas are at 32, 64, 96, and 128 feet. The 10 meter antennas are at 35, 55, 75, and 95 feet. The reason the bottom 10 meter antenna is a little high is that the 90 foot tower is located 10 feet down from the flat apple orchard to the northeast. Effectively, the tower is an 80 footer.

For the curious, on 80 I use four phased verticals with a raised ground screen. These are free standing aluminum elements mounted in two sections of Rohn 45. They weigh 135 pounds each. The first winter I used them I worked over 100 JAs longpath at sunset... On 160 meters I use an inverted vee off the 120 foot tower.

The top set of guys on each tower are Phillystran and all others are steel broken up with insulators.

Stacking Gain

Depending on spacing, a pair of yagis can provide 2.5 to 3.0 dB of stacking gain, three antennas provide 4.0 to 5.0 dB and a set of four provide 5.0 to 6.0 dB.

Wave Angle Control

Notice that stacking provides at most one s-unit of additional gain. Why bother? How can this account for the results the guys with stacks get? The answer is that the stack provides a much broader lobe in the vertical plane, covering many more square miles at the DX end. Consider broadcast satellites. They have antennas designed to provide a *footprint* covering a specific region. From New England we have to cover a region from England (3,300 miles) to Kazakh (5,600 miles). DX signals almost always come in on multiple hops and at wave angles (vertical arrival angles) of 2 to 20 degrees.

An example demonstrates the problem. Suppose you have 15 meter yagis at 120 feet and 60 feet, but can only feed one at a time. A 15 meter beam at 120 feet has its first maxima at roughly 5 degrees and the first minima at 10 degrees. The yagi at 60 feet has a maxima at 10 degrees and a minima at 20 degrees. At daybreak the band is just opening, signals are arriving at 3 degrees or less and the high yagi outperforms the low one by 5 to 10 dB. Late in the morning, western Europeans are arriving at angles of 10 degrees or more while UA6 is still arriving at 4 or 5 degrees. Western Europe can be 20 or 30 dB louder on the low antenna than the high! I have heard this happen on my own antennas. It sounds like the top antenna is broken. Moscow is still 5 dB louder on the top antenna. What to do? Stack 'em!

The two stack results in a maxima at 8 degrees with a peak gain almost 3 dB above the peaks of each individual antenna (at 5 and 10 degrees). The really good news is that the stack is louder than *either* antenna from less than 3 degrees to almost 15 degrees!! That's coverage. That's 60/hour at midday versus 40/hour on a single antenna. Without stacking you could constantly switch from one antenna to the other to get coverage, but who says that UAs only tune by when you are on the top antenna and Gs tune by when you are on the bottom one?

Picking Antenna Spacing

In his book *Antennas*, Kraus (the W8JK of Ohio State) introduces the concept of aperture. Basically, an antenna has a physical capture area, related to its gain, called its effective aperture. If two antennas are stacked and their physical capture areas don't overlap, a gain of 3 dB results. As the antennas are moved closer together their apertures start to overlap and

gain decreases until the antennas are on top of each other and there is no stacking gain at all. Why not always stack far apart? At very wide separations extra lobes appear in the vertical pattern causing nulls in some of the arrival angles we are trying to cover. A typical (25' boom) 4 element 15 meter beam has a vertical aperture of about 35 feet. Below 30 foot separation you start to lose gain. Above about 60 feet you can profitably fit another antenna in between for some extra gain and a smoother vertical pattern. For example, that 120' tower with two yagis on 15 could profitably hold 2, 3, or 4 yagis spaced at 60, 40, or 30 feet. I happen to have used 4 antennas on 15 with 32 foot spacing. The fourth antenna probably doesn't buy me much, but it is psychologically helpful. I would prefer it have 38 foot spacing and a 150 foot tower, but that would put the top antenna just too high when fed alone.

The answer to the spacing question is basically: stack at 1.5 boomlengths. The longer boom antennas have greater gain and aperture, requiring greater spacing. This does not hold for very high gain antennas at VHF. For 3 to 6 element HF antennas it is OK. Closer spacing probably costs you aluminum without too much benefit, but I do it anyway. Spacing is not nearly as critical as many folks think. Variations of 20 or 30 percent in stacking distances are fine. The moonbounce guys worry much more because that last .2 dB of gain and sidelobe attenuation really matters.

How to Feed Them

Some guys have a 6-element KLM on the top of the tower, put the old homebrew 4-element from last year halfway up the tower, hook them to a Tee connector and call CQ. Sometimes this works, sometimes it doesn't. You *definitely* can't predict the vertical pattern this way. You can add relays or switches for upper/lower/both. Unfortunately, unless you are very lucky, the load seen by the final will be all over the place and you will need to retune every time you switch. In all probability you will need to switch constantly because without proper phasing, one of the single antennas will often be louder than the stack.

If, on the other hand, the antennas are identical and fed properly, you can count on the stack always being as loud or louder than any antenna separately. The name of the game is to get equal amplitude and phase out of each antenna.

Rule 1: Always use physically identical antennas.

Rule 2: Always use physically identical feedlines. This means take the coax off the same spool.

Rule 3: Make sure there is no RF on the outside of the feedline. Use a balun or RF choke.

Rule 4: All switching systems must preserve the elec-

trical length of the feed system. In other words, don't switch in an extra 1/4 wave of feedline unless you are switching out another 1/4 wave someplace else. K2TR pointed this out over ten years ago in the *Scuttlebutt*. This preserves the feedpoint impedance so you don't have to retune the amplifier when switching.

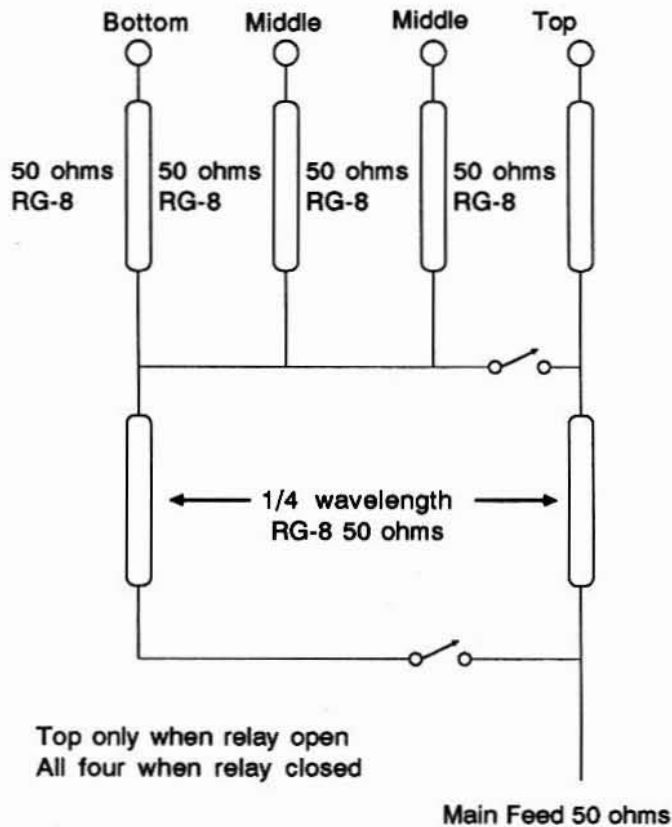
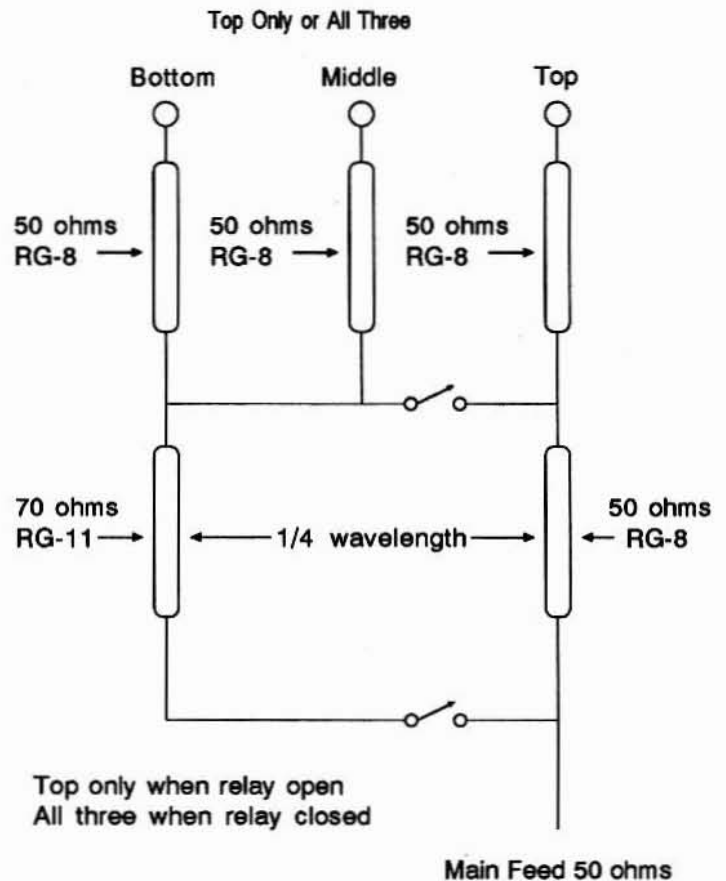
Here is how I feed my antennas. I sent a box of ferrite SuperBeads (available from Radio Kit) to Nermal in Florida. For each antenna set I had them cut equal lengths of coax from the same spool and slip SuperBeads and heatshrink tubing over one end. Next, they heatshrunk over the beads and sealed with a sealant. Finally they put silver-teflon PL259s on both ends. They charged about a buck a connector and \$1.50 for the heatshrink, over the cost of the cable and connectors. I then do 11 cables this way. it was worth it.

The 10 meter cables have 4 SuperBeads, the 15 meter cables have 5 SuperBeads, and the 20 meter cables have 6 SuperBeads. I borrowed an HP vector impedance meter and determined that rf chokes made this way have an impedance greater than 1000 ohms on each band.

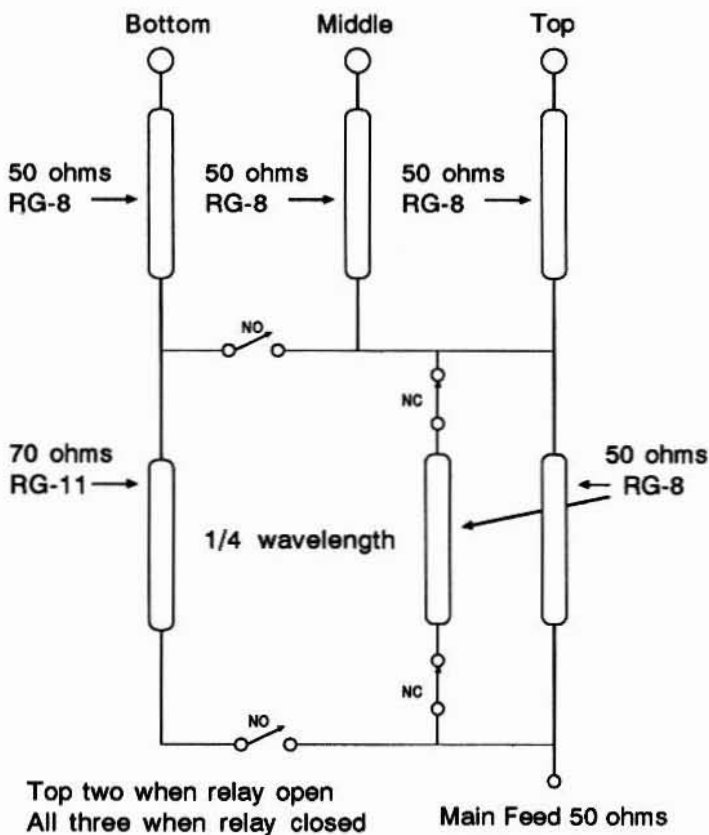
I switch each stack in its own relay box mounted on the tower at the array center. I feel I can control the phasing better closer to the antennas, and I save on feedline. The drawbacks are obvious, the relays are out of doors and require an outdoor control cable. K1GQ thinks I'm crazy. Who knows? Each antenna feedline is an odd multiple of a quarter wavelength. This is an attempt to force the currents in each antenna to be the same despite the fact that they are in slightly different environments. The switching boxes are fairly large diecast boxes (read expensive) mounted upside down with SO-239s mounted in the cover. The relays are Original OW-SH-124DM with 20 amp contacts and a 24 volt coil. They are hermetically sealed and have extremely low inductance, which is important for preserving phase on 10 meters. The relays are small and are mounted on the inside of the box cover very close to the SO-239s. Internal RF wiring is done with 3/4 inch flat braid (like you ground your tower with) mounted 1/4 inch above the surface of the box. This creates an approximate 50 ohm transmission line, lessening the phase changes due to inductive wiring. Overall, these boxes are probably usable up to 2 meters.

The switching system I use is shown in the figures. Notice that the electrical length of the feedline does not change when switching from a single to multiple antennas.

The basic impedance matching trick is to connect all the antennas in parallel, creating a lower impedance, then transform them up using a 1/4 wave coax cable transformer. The other trick many hams are not aware of is that coax cables of equal length parallel just like

K1EA Stacked Beam Switching System**K1EA Stacked Beam Switching System****K1EA Stacked Beam Switching System**

Top Two or All Three



resistors do. For example, two 50 ohm lines in parallel act to all the world as a single 25 ohm line. A 50 ohm line in parallel with a 70 ohm line acts like a 29.3 ohm line.

The formula for a 1/4 coax transformer is:
 $Z_{new} = (Z_{line} * Z_{line}) / Z_{old}$

My three stack on twenty works this way:

Three 50 ohm antennas in parallel are $50/3 = 16.7$ ohms = Z_{old} . A 70 ohm line in parallel with a 50 ohm line is 29.2 ohms = Z_{line} .

$Z_{new} = (29.2 * 29.2) / 16.7 = 51$ ohms, a pretty good match.

The four stack is easy: four antennas in parallel, $50/4 = 12.5$ ohms = Z_{old} . Two 50 ohm lines in parallel = 25 ohms = Z_{line} .

$Z_{new} = (25 * 25) / 12.5 = 50$ ohms, exactly.

How about six antennas? $50/6 = 8.33$ ohms = Z_{old} . Use two 70 and one 50 ohm lines in parallel = $1 / (1/50 + 1/70 + 1/70) = 20.6 = Z_{old}$.

$Z_{new} = (20.6 * 20.6) / 8.33 = 50.9$, magic!!

Five antennas? $50/5 = 10$ ohms = Z_{old} . Three 70 ohm lines yields 23.3 ohms = Z_{line} .

$Z_{new} = (23.3 * 23.3) / 10 = 54.4$, oh well, not perfect, just close.

Once you know these tricks, you can dream up any crazy combinations you want from one to six antennas. Just switch particular antennas you wish to drive in parallel, then switch in combinations of 50 and 70 ohm lines to suit the number of antennas in parallel.

Callsign Trivia

Fred Laun, K3ZO

(reprinted from the PVRC Bulletin, October, 1989)

As I've said in comments elsewhere, it helps me immensely in DX contests to know which callsign combinations are likely to be correct and which are not. Of course, at the rapid pace amateur radio is growing in some areas, those rules of thumb change constantly, and it helps to be active on the bands to become aware of changes. Here by first letter, are rules of thumb that I use when operating contests. I don't have a little sheet with these rules on it; they are just files "upstairs" for future reference. If I omit a first letter in my review, it's because the rules of thumb have occasion to be too seldom used (because of lack of activity in the affected areas) to be worth keeping in mind as an operating aid. Here, then are these rules of thumb. They apply to HF operations only, since we are not taking up VHF operations in this review. Some coun-

tries use special callsigns for their VHF licensees.

CALLS BEGINNING WITH "B": Only BT, BV, BY, and BZ prefixes are possible.

CALLS BEGINNING WITH "D": DA, DF, DJ, and DK will almost always have two letter suffixes. The main exceptions are DJ0 and DK0, which frequently have three letter suffixes. The exception that proves the rule is DF1IAF. Don't ask me how he got his call! DH calls will be found only on 28 MHz and 3.5 MHz CW.

CALLS BEGINNING WITH "F": Stations operating in France (F, FB, FD, FE, and FF) do not use the numbers 4 or 7 in their calls. Such stations with a 1 or a 6 in their calls will always have three letter suffixes. Such stations with a 2, 3, 5, 8, or 9 in their calls will almost always have two letter suffixes.

CALLS BEGINNING WITH "G": The numbers 1, 7, and 9 are not used on HF in prefixes beginning with G, GD, GI, GJ, GM, GU, and GW. Stations with a 0 in their calls will always have three letter suffixes, while those with a 5, 6, or 8 in their calls will almost always have two letter suffixes. Don't forget that in the CQ WW contests, GM-Shetlands counts as an additional multiplier.

CALLS BEGINNING WITH "H": The HJ (Colombia) prefix will be found only on CW and on 3.5 and 7 MHz SSB. Except on 28 MHz, almost all stations using the HG (Hungary) prefix will have a single letter suffix.

CALLS BEGINNING WITH "I": Almost all Italian stations are limited to the I, IK, or IO prefixes. The biggest are IN3 and IV3 prefixes, and of course we all know about IT9 and IS0, but the latter doesn't count for Italy anyway in the contests (IT9 counts as a separate multiplier in the CQ WW). Stations with the IK prefix have three letter suffixes only.

CALLS BEGINNING WITH "J": The prefixes JB and JC are not used. The Japanese began with the JA prefix, then jumped to JH, and then to JR, before coming back to JE and starting up the line alphabetically from there. Thus, in the less populated call areas, you will not find prefixes near the end of the Japanese allocation block (JA through JS) except for JR. JS6 is the exception, designating newer stations on Okinawa. At this time, I am not aware of any assignments of the following prefixes: JN-JS2, JQ3, JS3, JJ-JQ4, JF5, JG5, JI-JQ5, JS5, JK-JQ6, JJ-JQ7, JS7, JI-JQ8, JS8, JE-JI9, JJ-JQ9, JS9, JF0, JI-JQ0, and JS0. Incidentally, if you ever have a JA pile-up that is so bad that you just can't pull anybody through, the best thing is to say "The JA5, go ahead" or "The JA9, go ahead". These are the two least populated JA call areas, so chance are, given the JAs noted discipline,

you will get only one or two callers if you do that.

CALLS BEGINNING WITH "L": All LA three letter suffixes end with A. Only LX1 and LX2 prefixes exist except for occasionally special stations, and LX1 and LX2 stations all have two letter suffixes. The same thing exactly can be said for LZ stations, except that suffixes beginning with K almost always have three letters. In LZ, the exceptions to the 1 or 2 in the prefix are LZ5A, LZ7A, and LZ9A. Other special event stations may exist from time to time.

CALLS BEGINNING WITH "O": All OH stations with three letter suffixes have suffixes beginning with M or N, except in OH2 where most of the three letter suffixes begin with B. OF is often used by the OHs in contests. Czech prefixes are normally limited to OK1, OK2, and OK3, with a few OK5 club stations, and special stations OK6DX, OK7AA, and OK7MM being the exceptions. The OL prefix will be found only on 1.8 MHz generally, but every now and then the OKs use OL in a contest, generally with a single letter suffix. In Belgium, there are no assignments of ON1, ON2, ON3, or ON0 prefixes. All ON5, ON6, ON7, and ON8 calls have two letter suffixes, while only ON4 suffixes beginning with A or K have three letters. The only ON9 call is ON9CDX.

CALLS BEGINNING WITH "P": Only PA2, PA3, and PA0 are assigned. All PA2 and PA3 calls have three letter suffixes. PB prefixes (PB0 only) will be found on 28 MHz only.

CALLS BEGINNING WITH "Q": Definitely a busted call.

CALLS BEGINNING WITH "R": The rules of thumb are rapidly disappearing here as the Soviets seem to be imitating us in trying to use all possible prefixes, but you will still not find an RA5 or an RA7 on the air. The RE, RK, RN, RS, and RX prefixes are not normally used. Beyond that, anything beginning with R seems possible these days.

CALLS BEGINNING WITH "S": There are no SM8 or SM9 calls. The Swedes do not assign the same suffix to two different hams even if they are in two different call areas. Thus far, they have reached the letter S in their three letter suffix assignments, so you will not find the three letter suffixes beginning with T or above at this time. Exactly the same can be said about the SPs, except that SP8s and SP9 exist, but SP0s are rare. It is an interesting coincidence that the Swedes and the Poles are just about at the same place in assigning three letter suffixes.

CALLS BEGINNING WITH "U": Same editorial comments as in "R". No UA5s or UA7s are known to exist, and UE, US, and UX prefixes are not normally used (US0US and US4P being the rare excep-

tions). Remember UA9S and UA9W are in CQ zone 16.

CALLS BEGINNING WITH "X": There are only XE1, XE2, and XE3 prefixes in the XE block.

CALLS BEGINNING WITH "Y": Only Indonesian first class hams are allowed twenty meters. They are assigned the YB prefix, with YE as the overflow prefix. Thus, you won't find any YCs or YDs on 14 MHz. The YO0 prefix is not normally assigned, nor are the YU9 or YU0 prefixes.

There are many more rules than these, but these should cover 99% of the cases found in contests.

Overlook Mountain Amateur Radio Club (OMARC) Midnight Special Results - Spring 1989

Richard King, K5NA

Bands used: first hour (40 CW), second hour (75 SSB)
The top 5 finishers in each category are:

OVERALL		CW		SSB	
KZ2S	128	KZ2S	69	KZ2S	59
K5NA	123	K5NA	64	K5NA	59
W2XL	101	K6LL	61	WT4A	57
K1ZZI	100	KD2SX	56	W2XL	51
WT4A	98	K4BAI	56	K1ZZI	48

Club Competition

The club competition was unofficial this time because it wasn't mentioned in the rules. For those who listed a club affiliation on their Midnight Special logs, we have listed the club results alphabetically below:

CLUB	ENTRIES	TOTAL
Dixie DXers Contest Club	1	74
Mad River Radio Club	2	134
North Florida DX Association	4	233
Overlook Mountain Amateur Radio Club	12	729
Potomac Valley Radio Club	1	100
Poughkeepsie Amateur Radio Club	2	129
YCCC	1	77

OMARC would like to thank all those who participated in the OMARC 1989 Spring Midnight Special. We plan to sponsor two Midnight Specials per year in the spring and in the fall. The comments we got on the logs were all supportive of continuing this tradition. With your help, OMARC plans to do just that.

OMARC 1989 Spring Midnight Special Results:

KZ2S	128	69	59	AA4VD	64	46	18
K5NA	123	64	59	K2HA	53	33	20
W2XL	101	50	51	KA2TIP	45	0	45
K1ZZI	100	52	48	N4FD	42	42	0
WT4A	98	41	57	WA3AFS	41	5	36
W2PA	92	53	39	NR8J	39	19	20
K6LL	91	61	30	KD2NE	38	0	38
NA2N	90	54	36	N4KE	37	32	5
K2UR	87	49	38	N2FTR	37	10	27

W1KKF	87	41	46	N2GQS	34	5	29
KY2J	79	39	40	WA4DRU	28	28	0
KD2SX	77	56	21	NQ3S	24	24	0
K4BAI	74	56	18	WD2V	20	0	20
NU4Y	70	44	26	K2KBL	18	0	18
WC4E	70	45	25	N1EE/6	17	16	1
AC8W	69	38	31	KA3AVB	16	0	16
K2PS	69	30	39	KU2Q	1	0	1
K8DD	65	43	22				

Score Rumors

(Thanks to Randy Thompson, K5ZD/3, for providing some of this information.)

CQ WW SSB:

Single-Op:

Call	Qs	Zs	Cs	Score
K1DG	2491	133	448	4.1M
W1GIH	1187	116	349	1.5M
K1RU	2450	133	433	4.0M
W1WEF	1475	106	344	1.9M
K1ZJH	?	?	?	135K
N2BA	1703	123	399	2.5M
K2DM	2268	119	409	3.3M
WG2E	1000	114	347	1.3M
N2NT*	3078	137	476	5.38M
K2PS	1135	100	304	1.3M
AI3E	?	?	?	298K
W3GG	1078	118	350	1.3M
WB3KKX/8	?	?	?	2.1M
K3NA (W3OG)	1078	108	350	1.376M
K3OO	2742	130	449	4.51M
KE3Q	1527	126	418	2.33M
K3TUP*	2900	135	454	5.0M
K3ZO	2500	130	422	3.8M
K4VX	1977	151	432	3.2M
N5RZ	1932	150	450	3.2M
K5ZD/3	2418	138	456	4.1M
N6BV/1	2769	134	452	4.6M
WE6G	840	81	260	790K
W8LT	540	106	247	521K
NA8V	1981	124	373	2.8M
W9RE	1875	141	458	3.2M
W0ZV	2173	147	415	3.48M
NP4Z/qrp	2124	107	300	2.4M

Single-Op Unlimited:

Call	Qs	Zs	Cs	Score
AK1A	1763	119	416	2.73M
NC1B	1366	111	343	1.7M
AD1C	488	88	256	469K
AG1C	1329	117	400	1.95M
NO1I	940	106	358	1.2M
K1VR	1206	122	431	1.8M
KA1XN	920	126	433	1.42M
W2GD	1434	138	487	2.5M
N8ATR	1160	115	327	1.4M
WD8IXE	1000	114	347	1.3M
KC8PE/1	1184	74	303	1.2M

Single-Op Single-Band:

Call	Band	Qs	Zs	Cs	Score
KA2AEV	10	950	29	96	326K
KM2P	10	1485	33	143	734K
KD2RD	10	1446	32	130	660K
N4KG	10	1202	34	150	633K
K5GA	10	1871	35	151	990K

KP2A	10	5640	34	130	2.5M
W6QHS	15	1439	35	126	637K
W1RR	20	1383	39	142	706K
NQ2D	20	1142	37	141	559K
N9RD	20	651	37	125	27K

Multi-Single:

Call	Qs	Zs	Cs	Score
KQ1F	917	117	357	1.0M
K1IU	1857	133	492	3.3M
K1NG	2732	159	592	5.9M
KB1RI	1931	110	351	2.5M
KA1X	1259	98	327	1.5M
K1YR	2729	148	592	5.7M
K2DM	1753	130	453	2.86M
W2HPF	2228	135	433	3.5M
AA4NC	2177	124	414	3.2M
K14R*	2729	148	592	5.77M
N4RJ	2827	154	551	5.7M
W8FN	1753	130	453	2.8M
WB8K	2227	148	489	4M
KS9K*	2886	167	572	6M
KP4BZ/W4	?	?	?	1.5M
VE1ASJ	6106	136	464	8.3M
6Y5X	?	?	?	2.5M

Multi-Multi:

Call	Qs	Zs	Cs	Score
KY1H	4403	155	630	9.2M
NB1H*	5131	158	636	11.6M
N2RM*	5251	159	630	11.65M
K2TR*	4944	159	672	11.5M
W3LPL*	6057	172	691	14.9M
NQ4I*	2599	148	494	4.84M
N5AU*	4766	169	655	11M
K5NA*	4217	153	627	9.1M
K8CC*	3540	158	535	6.9M
NE9O	2300	144	456	4M
FS/KC1F	7865	112	362	9M
VP9AD*	16570	172	639	32.5M

*CQ WW SSB Score Breakdowns:

NB1H M/M:

band:	Qs	Zs	Cs
1.8	13	6	9
3.8	216	16	66
7	254	24	89
14	1254	40	166
21	2142	39	150
28	1252	33	158
TOTAL	5131	158	636 = 11.6M

K1NG M/M:

band:	Qs	Zs	Cs
1.8	12	7	9
3.8	87	17	59
7	134	26	83
14	1001	39	161
21	520	37	135
28	978	33	145
TOTAL	2732	159	592 = 5.95M

N2NT Single-op:

band:	Qs	Zs	Cs
1.8	14	5	12
3.8	118	15	56
7	180	21	71
14	473	33	109
21	834	30	111
28	1459	33	117
TOTAL	3078	137	476 = 5.38M

N2RM M/M:

band:	Qs	Zs	Cs
1.8	62	9	19
3.8	234	17	70
7	211	21	77
14	1079	38	154
21	1495	39	147
28	2170	35	163
TOTAL	5251	159	630 = 11.65M

K2TR M/M:

band:	Qs	Zs	Cs
1.8	50	7	12
3.8	286	15	73
7	286	26	91
14	1134	39	164
21	1503	37	159
28	1685	35	173
TOTAL	4944	159	672 = 11.5M

W3LPL M/M:

band:	Qs	Zs	Cs
1.8	43	10	21
3.8	375	19	62
7	425	29	100
14	1513	40	176
21	1574	38	161
28	2327	36	171
TOTAL	6057	172	691 = 14.9M

K3TUP Single-op:

band:	Qs	Zs	Cs
1.8	13	6	10
3.8	75	12	43
7	95	16	56
14	700	34	120
21	560	33	105
28	1450	34	120
TOTAL	2900	135	454 = 5.0M

N4QI M/M:

band:	Qs	Zs	Cs
1.8	21	9	13
3.8	69	12	34
7	100	19	59
14	542	38	114
21	473	36	119
28	1394	34	153
TOTAL	2599	148	494 = 4.84M

KI4R M/S:

band:	Qs	Zs	Cs
1.8	10	5	9
3.8	70	14	52
7	101	24	82
14	850	38	155
21	470	36	138
28	1228	31	156
TOTAL	2729	148	592 = 5.77M

N5AU M/M:

band:	Qs	Zs	Cs
1.8	27	9	20
3.8	110	19	?
7	259	29	98
14	1338	39	163
21	1417	39	169
28	1520	34	159
TOTAL	4766	169	655 = 11M

K5NA M/M:

band:	Qs	Zs	Cs
1.8	56	5	11
3.8	321	17	77
7	200	22	81
14	1206	40	162
21	1009	34	138
28	1425	35	158
TOTAL	4217	153	627 = 9.1M

K8CC M/M:

band:	Qs	Zs	Cs
1.8	129	11	17
3.8	128	12	38
7	224	27	78
14	733	38	125
21	883	36	124
28	1442	34	153
TOTAL	3540	158	535 = 6.9M

KS9K M/S:

band:	Qs	Zs	Cs
1.8	16	9	15
3.8	44	16	43
7	146	29	92
14	844	39	141
21	556	40	132
28	1280	34	149
TOTAL	2886	167	572 = 4.45M

VP9AD M/M:

band:	Qs	Zs	Cs
1.8	488	14	32
3.8	1220	18	78
7	1749	28	99
14	5536	40	150
21	4260	37	150
28	3217	35	130
TOTAL	16570	172	639 = 32.5M

Letter to the Editor

I have been following the discussion of 'uniques' for some time and would like to express my feelings over the subject. So much sentiment had been concentrated on logging accuracy and operators' honesty - all based on the existing contest databases. Seems to me that the issue here is 'scientific' approach that is being applied to judge persons' integrity instead of his operating abilities.

I have been contesting for the last 6 years or so and very proud to have been operating together with some of the finest contest crews on the East Coast. I observed and learned a lot from these guys. What still amazes me is the intensity, the zeal, the emotional state of the operators involved in the 'all-out' effort. I get involved, too - why operate otherwise? You'll be surprised what one can do hunting for mults - I don't mind listening to ragchewers, raid the nets, beg and plead, call 'CQ Contest' in French, Spanish, Russian - anything to entice DX to work me! Well, I often pick many very juicy pieces, others won't get (plenty 'uniques' here). Tell me it's unethical, tell me my 'uniques' percentages are way too high. The air is

wide open and I'm the HUNTER, it's my responsibility to do everything possible to WIN. No, I don't have time to introduce calls of stations I haven't worked into my log. And I don't know anyone who does. I may not be the greatest, but I want to think I'm a good contest op. Sure enough, I make mistakes, my ears fail me once in a while - with 'watery' over-the-pole signals, backscatter, QRN and QRM, general fatigue on the n-th hour of intense listening - there isn't a darn thing I can do. Appeals 'Make less mistakes!' are as meaningful as 'Breathe air!' So what if that 'unique' pops into my log? Does it mean I'm a bad careless op? Dishonest? That my pile-up was larger?

'Uniques' are OK to calculate how many stations were actively participating in the test and how many weren't. They are a terrific tool to evaluate error margins. They, however, are NOT OK to render moral judgment over anyone. There are mistakes ... and there are 'uniques'.

Statistical analysis and error detection using 'uniques' should have a glorious future, 'uniques' character judgment should have no future at all.

Edward Kritsky, NT2X

P.S. Regarding the 'participants-competitors' suggestion.

Contest is for anyone who wants to participate. To me, the only difference between participants and competitors is the intensity of the participation. But one man's participation is another's competition. Thus, I oppose the creation of 'sub-classes' of testers, let the judges determine who wins and who doesn't - why should anyone disqualify himself from the beginning, in any size contest???

Movers and Shakers

Please update your club roster to include the following changes:

Tom, K1KI, has moved:
Tom Frenaye, K1KI
P. O. Box 386
West Suffield, CT 06093

Jim, K1IR, has moved:
Jim Idelson, K1IR
19 Rolling Lane
Sudbury, MA 01776

New office phone number for John, W1RR, is (508)691-3099.

Lanny, W1OO, has moved:
Lanny Bailey, W1OO
224 Holmes Road

Scarborough, ME 04074
phone: (207)883-7125

Correct phone number for Dean, N6BV/1, is (508)540-4014.

Bob, ex-WB1AUW, has upgraded his callsign and is now studying at the University of Arizona:
Bob Koerner, NY1I
8910 N. Camino de la Tierra
Tucson, AZ 85741
phone: (602)742-6130

New Crew

Please welcome the following new and returning members who joined at the October meeting:

Frank L. Chamberlain, KC1HB
94 Westland Avenue
Portland, ME 04102
Work phone: (207)772-9784

Paul Bolduc, KA1OFC
RFD # 2
Athol, MA 01331
Home phone: (508)249-4038

Scott Cohen, KA1QAS
238 Kozley Road
Tolland, CT 06084

Vincent Sgroi, K1RM
6 Autumn Land
Plainville, CT 06062
Home phone: (203)747-3335

Paul L. Randazzo, NW1U
12 Turnbuckle Lane
Tyngsboro, MA 01879
Home phone: (508)649-9262
Work phone: (800)444-0047

Kevin S. Bonnot, KA2EYP
27 Iris Road
Milford, NH 03055
Home phone: (603)673-1136
Work phone: (603)434-8234

Mike Griffin, WE6G
51 Strobel Road
Trumbull, CT 06611
Home phone: (203)452-7654
Work phone: (203)385-1064

Excess Cargo

For sale: Super DX/Contest location on Cape Cod. 1 year old 2100 sq. ft. 3Br, 2Ba Cape, with .75 acres of land on top of hill. Complete with antennas for 160m-10m. \$275,000. Dean Straw, N6BV/1, 70 Fairway Lane, Falmouth, MA 02540. (508)540-4014.

THE CLUB RESOURCES PAGE

THE Place to Find Club Information

DUES are due at the April election meeting, which begins our club "contest year", with a grace period until the end of June. Membership in the club will lapse at the end of the grace period if dues are not paid up. In order to re-join the club, a lapsed member must attend a meeting, like any new member, and be welcomed back into membership, or may become a subscriber to the *Scuttlebutt* by paying up (see below). Club members who move out of club territory and so are not eligible to contribute to club aggregate scores automatically become subscribers. New members who join at the last meeting of the club's contest year (February) are credited with dues for the following year (that is, the contest year beginning that April). You can tell if you owe dues by checking your *Butt* mailing label. Only paid-up members are eligible to contribute to the club score in contests.

FAMILY MEMBERS Members of the same family living at the same address may elect to receive only one copy of the *Butt*. One member of the family must pay full dues, enabling the rest of the family to join as family members. Being a family member is currently free.

STUDENT MEMBERS Full-time students are eligible for dues at half the regular rate.

SCUTTLEBUTT SUBSCRIBERS Anyone may subscribe to the club newsletter, the *Scuttlebutt*. A subscription currently costs \$10 per year. At the present time, overseas subscriptions cost the same as domestic (we have very few overseas subscribers). The subscription period begins at the beginning of the club year, in April. New subscribers who begin their subscriptions after the December issue are considered to have paid for the following year (that is, they receive as many issues as new members joining at that time do). You can tell if your subscription is current by checking your *Butt* mailing label. The grace period for late subscriptions is the same as for late memberships.

SCUTTLEBUTT ARTICLES should be sent to the *Scuttlebutt* editor, Paul Young, K1XM, 11 Michigan Drive, Hudson, MA 01749, home phone (508)562-5819. The deadline for each issue is usually three weeks before the next meeting.

CLUB JACKETS are available through Ed Kritsky, NT2X, 580 East 17th Street, Apt. 2F, Brooklyn, NY 11226, home phone (718)284-4493.

CLUB QSL CARDS are ordered through John Dorr, K1AR, 2 Baldwin Street, Windham, NH 03087, home phone (603)434-5661.

CLUB QSL CARD BADGES are available from Tom Frenaye, K1KI, 23 Pinehurst Road, Box 62, Unionville, CT 06085, home phone (203)673-5429, by sending him a club QSL card. The cost is \$1 payable to the club treasurer on receipt of your badge.

PACKET NET information is available from Dick Newell, AK1A, 8 Golden Run Rd., Bolton, MA 01740, home phone (508)779-5198, or Dave Robbins, KY1H, Baumann Road, Peru, MA 01235, home phone (413)655-2714.

CONTEST SCORES are sent to the club scorekeeper, Jeff Detray, NK1F, P. O. Box 524, Troy, NH 03465, home phone (603)242-7995.

CLUB ROSTER appears in the summer issue of the *Scuttlebutt* every year. Updates are published when members move or change callsigns. If you want a new copy of the club roster, contact the club secretary/treasurer, Charlotte Richardson, KQ1F, 11 Michigan Drive, Hudson, MA 01749, home phone (508)562-5819.

CONTRIBUTIONS The YCCC welcomes your contributions, be it money to help offset the cost of the *Scuttlebutt* and club operations, scores for the club aggregate score, time spent helping other members, articles for the *Scuttlebutt*, or presentations at club meetings.

DXCC LIST The club maintains a one-page version of the ARRL DXCC Countries List. To get a copy, send an SASE to the club secretary, Charlotte Richardson, KQ1F, 11 Michigan Drive, Hudson, MA 01749. Complete DXCC rules are only available from the ARRL.

ARRL LIAISON For ARRL matters, contact Tom Frenaye, K1KI, 23 Pinehurst Road, Box 62, Unionville, CT 06085, home phone (203)673-5429.

The **Scuttlebutt** is the newsletter of the **Yankee Clipper Contest Club** and is mailed six times per year to all paid up members. Dues are \$15 per year, payable 1 April with a grace period through 30 June. Non-members may subscribe to the **Scuttlebutt** by sending \$10 to the Treasurer: Charlotte Richardson, KQ1F, 11 Michigan Drive, Hudson, MA 01749. Subscribers who subsequently become members will be credited as having paid \$10 towards dues.

The **Scuttlebutt** may be reprinted in whole or in part, except for separately copyrighted articles, provided proper credit is given.

The **Yankee Clipper Contest Club** (an ARRL Affiliated Club) holds six official meetings per year, on the Saturday or Sunday afternoon of the first full weekend of every even month, usually in the Sturbridge, Massachusetts, area. The deadline for article submission to the **Scuttlebutt** is usually three weeks before the next meeting date. The next meeting will be on Saturday, December 2, 1989. Attendance at an official meeting is required in order to become a member. Club members congregate on 3830 KHz after contests. The packet frequency is 144.95 MHz.

Rosters are mailed to all paid members each summer. For more information and/or assistance, contact the area manager nearest you on the following list:

Area	Call	Name	Home	Work
CT/RI	K1RU	Gene Frohman	(203) 393-1772	(203) 386-6137
EMass	N1AU	Bill Santelmann	(617) 862-1753	(508) 692-6000
WMass	KY1H	Dave Robbins	(413) 655-2714	(413) 494-2023
VT/NH	K1GW	Glen Whitehouse	(603) 673-6290	(603) 627-7877
ME	K1SA	Bernie Cohen	(207) 773-6589	(207) 797-3585
NNY	K2TR	Fred Lass	(518) 355-4813	(518) 346-6666
SNY/NJ	K2EK	Bill Gioia	(914) 221-1672	(914) 697-3250

YCCC

11 Michigan Drive

Hudson MA 01749

FIRST CLASS